

**To:** [REDACTED] Ex. 6 - Personal Privacy  
**From:** Gundersen, Jennifer  
**Sent:** Thur 2/6/2014 6:24:50 PM  
**Subject:** RE: Formaldehyde question

Do you know what kind of cleaners/deodorizers they used in those bathrooms? A lot of bathroom cleaners and fresheners and contain traces of formaldehyde.

**From:** [REDACTED] Ex. 6 - Personal Privacy  
**Sent:** Thursday, February 06, 2014 1:07 PM  
**To:** Gundersen, Jennifer  
**Subject:** RE: Formaldehyde question

The "toilet" samples were from the toilet tanks – fresh water. That was a "clean" source that hadn't been flushed in accordance with the water companies advise. Hope that made sense – not normal use of the word "flush". Anyway the water was used because it was representative of what had come into the building early in the crisis. It hadn't been "used".

No more formaldehyde hits but no more MCMH hits either since early in the crisis, I think. I can't keep track and so many others working on this. I BELIEVE some of the agencies are now sampling for formaldehyde also. I know folks from USGS are now adding it to their list as far as the river is concerned.

My concern is that free methanol was a part of the spill and of course was also a component of some of the other contaminants. The water plant hit it with chlorine as they normally would, and then tried potassium permanganate to try to oxidize what was coming in. So my concern isn't just formaldehyde – that was just an easy one to think about – but other oxidation/breakdown/daughter/degradation products from all of the components in the crude MCHM that the agencies should have been thinking about and looking for in the finished water.

We've been doing trip and method blanks, but they don't always make it in the mix. A lot of folks sampling and the analyte list is far from static as we try to get a handle on what we should be looking for – I'd love your opinion on that in light of the above – especially the KMnO4.

I'm headed to the site now, but can probably talk some time today if you'd like, or email.

Thank you Jennie!

Ex. 6 - Personal Privacy

PhD

Professor and Program Coordinator

Environmental Science

Marshall University

**From:** Gundersen, Jennifer [<mailto:Gundersen.Jennifer@epa.gov>]

**Sent:** Thursday, February 06, 2014 12:52 PM

**To:** Ex. 6 - Personal Privacy

**Subject:** RE: Formaldehyde question

Hi

Ex. 6 - Personal Privacy

A couple quick questions on my first look.

Has any more sample data come in?

Interesting that the 3 hits were in samples labeled "toilet". How were they sampled?

Did the lab confirm with gc/ms - as method 8315A suggests when working with unfamiliar matrices? Since the 3 results were all pretty close to the reporting limit of 25, I would hope they confirmed somehow.

Did you do any field blanks or trip blanks? I only saw lab method blanks.

Thanks

Jennie

**From:** [Ex. 6 - Personal Privacy]

**Sent:** Wednesday, February 05, 2014 10:11 AM

**To:** Gundersen, Jennifer

**Subject:** RE: Formaldehyde question

Hey Jennie – I'm sorry – I've been awful about getting back with folks. Of course I'm on my way out the door, but attached is a lab report with the formaldehyde hits and includes method, etc.

I really would like to talk to you about it, so maybe after you have a chance to look at it we can talk.

Thanks!

[Ex. 6 - Personal Privacy]

E, PhD

Professor and Program Coordinator

Environmental Science

Marshall University

**From:** Gundersen, Jennifer [<mailto:Gundersen.Jennifer@epa.gov>]

**Sent:** Wednesday, February 05, 2014 10:00 AM

**To:** [Ex. 6 - Personal Privacy]

**Subject:** RE: Formaldehyde question

Hi U.S. PRIVACY

Resending this in case it got lost in your inbox.

If you have an SOP, method number, and raw data with QC you could share, I would appreciate it.

Thanks,

Jennie

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Jennifer L. Gundersen, Ph.D.

Chemist

US EPA

Region 3, OASQA

701 Mapes Rd

Fort Meade, MD 20755-5350

cube: 410-305-2835

fax: 410-305-3096

[gundersen.jennifer@epa.gov](mailto:gundersen.jennifer@epa.gov)

**From:** Gundersen, Jennifer

**Sent:** Wednesday, January 29, 2014 3:59 PM

**To:** Ex. 6 - Personal Privacy

**Subject:** Formaldehyde question

Hi

Ex. 6 - Personal Privacy

I saw the article (<http://www.wvgazette.com/News/201401290053>) that indicated you found formaldehyde in a drinking water sample. I was hoping you could tell me what method you used, as well as the detection limit, as I believe our lab (the EPA Region 3 lab) will be asked to run samples. Any info on blanks results and if you ran any matrix spikes would be useful as well.

Many thanks,

Jennie Gundersen

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Jennifer L. Gundersen, Ph.D.

Chemist

US EPA

Region 3, OASQA

701 Mapes Rd

Fort Meade, MD 20755-5350

cube: 410-305-2835

fax: 410-305-3096

[gundersen.jennifer@epa.gov](mailto:gundersen.jennifer@epa.gov)